

Mathematical modeling of deformations of hyperelastic solids

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Abstract

© 2014 L.U. Sultanov. The paper is devoted to development and numerical implementation for a method for investigation of stress-strain state of the solids with large elastic deformations. Calculation algorithm is based on the linearized equation of virtual work, defined to actual state. The incremental method is used. A spatial discretization is based on the finite element method. The examples of problems and their solutions are given.

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Keywords

Hyperelastic, Large deformations, Nonlinear elasticity